



2012 Annual Report

June 2013

Prepared By

Missouri Department of Natural Resources
Division of Environmental Quality
Air Pollution Control Program

Reports and Data Required by Federal Rule

Reports below are in the order of federal regulation. Federal requirements are in bold type and the Missouri Department of Natural Resources response follows each requirement. Responses that are data tables are found in the Attachments.

TITLE 40--PROTECTION OF ENVIRONMENT

CHAPTER I--ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER C--AIR PROGRAMS

PART 51--REQUIREMENTS FOR PREPARATION, ADOPTION, AND SUBMITTAL OF IMPLEMENTATION PLANS

SUBPART S--INSPECTION/MAINTENANCE PROGRAM REQUIREMENTS

§ 51.366 Data analysis and reporting.

Data analysis and reporting are required to allow for monitoring and evaluation of the program by program management and the Environmental Protection Agency (EPA), and shall provide information regarding the types of program activities performed and their final outcomes, including summary statistics and effectiveness evaluations of the enforcement mechanism, the quality assurance system, the quality control program, and the testing element. Initial submission of the following annual reports shall commence within 18 months of initial implementation of the program as required by Sec. 51.373 of this subpart. The biennial report shall commence within 30 months of initial implementation of the program as required by Sec. 51.373 of this subpart.

- (a) *Test data report.* The program shall submit to EPA by July of each year a report providing basic statistics on the testing program for January through December of the previous year, including:

The following responses cover data gathered from January through December 2012. See Attachment 1 for a Summary of information from Attachments 2-16.

- (1) **The number of vehicles tested by model year and vehicle type;**

See Attachment 2 – (1) The number of vehicles tested by model year and vehicle type

- (2) **By model year and vehicle type, the number and percentage of vehicles:**

- (i) **Failing initially, per test type;**

See Attachment 3 – (2i) Vehicles Failing Initially

- (ii) **Failing the first retest per test type;**

See Attachment 4 – (2ii) Vehicles Failing the First Retest

- (iii) Passing the first retest per test type;**
See Attachment 5 – (2iii) Vehicles Passing the First Retest
- (iv) Initially failed vehicles passing the second or subsequent retest per test type;**
See Attachment 6 – (2iv) Vehicles Passing the Second or Subsequent Retest
- (v) Initially failed vehicles receiving a waiver; and**
See Attachment 7 – (2v) Initially Failed Vehicles Receiving a Waiver
- (vi) Vehicles with no known final outcome (regardless of reason).**
See Attachment 8 – (2vi) Vehicles with No Known Final Outcome
- (vii) - (x) [Reserved]**
- (xi) Passing the on-board diagnostic check;**
See Attachment 9 – (2xi-xii) Vehicles Passing/Failing the On-Board Diagnostic Test
- (xii) Failing the on-board diagnostic check;**
See Attachment 9 – (2xi-xii) Vehicles Passing/Failing the On-Board Diagnostic Test
- (xiii) Failing the on-board diagnostic check and passing the tailpipe test (if applicable); N/A**
- (xiv) Failing the on-board diagnostic check and failing the tailpipe test (if applicable); N/A**
- (xv) Passing the on-board diagnostic check and failing the I/M gas cap evaporative system test (if applicable); N/A**
- (xvi) Failing the on-board diagnostic check and passing the I/M gas cap evaporative system test (if applicable); N/A**
- (xvii) Passing both the on-board diagnostic check and I/M gas cap evaporative system test (if applicable); N/A**
- (xviii) Failing both the on-board diagnostic check and I/M gas cap evaporative system test (if applicable); N/A**
- (xix) MIL is commanded on and no codes are stored;**
See Attachment 10 – (2xix) MIL is Commanded On and No Codes Are Stored

(xx) MIL is not commanded on and codes are stored;

See Attachment 11 – (2xx) MIL is Not Commanded On and Codes Are Stored

(xxi) MIL is commanded on and codes are stored;

See Attachment 12 – (2xxi) MIL is Commanded On and Codes Are Stored

(xxii) MIL is not commanded on and codes are not stored;

See Attachment 13 – (2xxii) MIL is Not Commanded On and Codes Are Not Stored

(xxiii) Readiness status indicates that the evaluation is not complete for any module supported by on-board diagnostic systems;

See Attachment 14 – (2xxiii) Vehicles Failing the Readiness Status

(3) The initial test volume by model year and test station;

See Attachment 15 – (3) Initial Test Volume by Model Year and Test Station

(4) The initial test failure rate by model year and test station; and

See Attachment 16 – (4) Initial Test Failure Rate by Model Year and Test Station

(5) The average increase or decrease in tailpipe emission levels for HC, CO, and NO_x (if applicable) after repairs by model year and vehicle type for vehicles receiving a mass emissions test. N/A

(b) *Quality assurance report.* The program shall submit to EPA by July of each year a report providing basic statistics on the quality assurance program for January through December of the previous year, including:

(1) The number of inspection stations and lanes:

There were a total of 880 GVIP licensed stations with 909 lanes operating at some point during 2012. This includes both public and private stations.

(i) Operating throughout the year; and

There were 758 GVIP licensed stations with 775 lanes in operation for the entire year of 2012. This includes both public and private stations but does not include Systech International (STI), Missouri State Highway Patrol (MSHP) or Missouri Department of Natural Resources (department) stations/lanes. These would account for an additional 4 stations and 15 lanes.

(ii) Operating for only part of the year;

In addition to the stations noted above there were 122 GVIP licensed stations with 134 lanes that operated less than 12 months out of the year.

(2) The number of inspection stations and lanes operating throughout the year:

(i) Receiving overt performance audits in the year;

6,386 overt audits of GVIP stations were performed in 2012. Of these, the department performed 1,679 (which included 484 lanes) and the MSHP performed 4,707 (which included audits of all lanes at the station). This indicates that every station and every lane operating for any period of time during the year received at least one overt performance audit.

(ii) Not receiving overt performance audits in the year;

All stations received at least one overt performance audit during this period; many received multiple audits.

(iii) Receiving covert performance audits in the year;

429 in-station covert audits of licensed stations were performed in 2012. The department performed 316 of these and MSHP performed 113.

In addition to the above, the department conducted data investigations regarding various aspects of the GVIP, such as Vehicle Identification Number (VIN) mismatches, OBD “fingerprint” mismatches, multiple 'readiness monitor fails' on the same vehicle, and 'Repair Verification' action regarding problem waivers. In 2012, the department conducted 498 such audits. The station is unaware of this type of audit; therefore, we consider them covert audits as well.

Finally, the department conducts a ‘repair audit’ with each waiver application to ensure the repairs made are appropriate and well-documented. Again, as the station is unaware of these audits, we consider them an additional type of covert audit. The department conducted 105 repair audits on 105 stations in 2012.

Each station received at least one covert audit during the year via one of these methods.

(iv) Not receiving covert performance audits in the year; and

Through a combination of physical covert audits of the station and the above mentioned data audits conducted by the department and the MSHP, all stations under the GVIP received at least one covert audit in 2012.

(v) That have been shut down as a result of overt performance audits;

2 inspection stations had licenses suspended or revoked as a result of overt audits by the MSHP.

(3) The number of covert audits:

The department conducted a total of 814 covert audits in 2012. As noted in previous reports, the MSHP does not have a vehicle with “set to fail” capabilities.

(i) Conducted with the vehicle set to fail per test type;

Of the above number, 316 were physical audits. Each vehicle is set up with:

- 1) A Diagnostic Trouble Code (DTC) embedded in it by a technical service center. This ensures that every covert vehicle will fail, at a minimum, the OBD test for DTC reasons;
- 2) The ability for the department auditor to allow the Malfunction Indicator Lamp (MIL) to illuminate as it should or to be turned off;
- 3) The ability to disconnect the catalytic converter, causing it to fail the emissions equipment section of the safety inspection.

(ii) Conducted with the vehicle set to fail any combination of two or more test types;

The department performed 172 covert audits with the vehicle set to fail any combination of two or more test types in 2012.

- All 172 were set to fail both OBD MIL & OBD DTC.
- Of those, no vehicles were set to fail OBD MIL, OBD DTC and Safety.

(iii) Resulting in a false pass per test type;

All covert audits in 2012 resulted in an overall failure for the vehicle's emission inspection. However, 31 covert audits resulted in a false pass for the MIL Verification Test as a result of the Inspector/Mechanic passing this test although the MIL was mechanically set to not illuminate by the department auditor.

No false passes were recorded for OBD DTC or Readiness.

There were 11 false results for the vehicle's safety inspection. All of these false results were in relation to the vehicle with a missing catalytic converter and resulted in a "Pass" for the missing catalytic converter.

(iv) Resulting in a false pass for any combination of two or more test types;

None of the covert audits for a vehicle set to fail resulted in a false pass in 2012. In addition, none had false passes for more than one test type.

(v) - (viii) [Reserved]

(4) The number of inspectors and stations:

(i) That were suspended, fired, or otherwise prohibited from testing as a result of covert audits;

2 Inspector/Mechanic licenses were suspended or revoked as a result of covert audits by the MSHP.

On October 11, 2012, the United States Attorney's Office Eastern District of Missouri announced that Mr. Michael Terry was sentenced to 13 months in prison for falsifying documentation regarding auto emissions tests and sales tax documentation during his employment at Sure Start Battery & Tire Company in St. Louis, Missouri. In addition to falsifying other records associated with vehicle registration, Terry conducted false safety and auto

emissions tests and provided false safety documentation to vehicle owners to bypass the Missouri state laws associated with vehicle safety and EPA regulations. The case was investigated by the Department, US EPA Criminal Investigation Division, MSHP, the Missouri Department of Revenue, IRS Criminal Investigation, and the St. Louis County Police Department.

(ii) That were suspended, fired, or otherwise prohibited from testing for other causes; and

All suspensions were the result of an audit conducted by the MSHP.

(iii) That received fines.

The department imposed fines on 1 station and 3 individual Inspector/Mechanics.

(5) The number of inspectors licensed or certified to conduct testing;

There were approximately 4,636 Inspector/Mechanics licensed to conduct testing under the GVIP in 2012.

(6) The number of hearings:

(i) Held to consider adverse actions against inspectors and stations; and

There were no resulting enforcement actions conducted by the MSHP.

(ii) Resulting in adverse actions against inspectors and stations;

There were no resulting enforcement actions conducted by the MSHP.

(7) The total amount collected in fines from inspectors and stations by type of violation;

In October 2011, the department reached a \$77,671.14 settlement with Airport Automotive in Hazelwood, MO, for 19 documented clean scans conducted at the facility. The paid portion of this penalty was paid in full in March 2012.

In July 2012, the Missouri Attorney General's Office, the department and Mr. Jeffery Clark of Clark's Tire and Auto, LLC (formerly Clark Tire Wholesale) reached a \$200,000 settlement for 63 clean scan inspections conducted at the facility. The Attorney General and department agreed to suspend \$180,000 of the penalty provided the facility have no further violations of Missouri Air Conservation Law and regulations for two years. In addition, on October 15, 2012, civil penalties against the three individual Inspector/Mechanics involved were ordered by default judgment. Mr. Herschel Clark was assessed a civil penalty of \$200,000, Mr. John Clark was assessed a civil penalty of \$65,000 and Mr. Jeremy Cook was assessed a civil penalty of \$95,000 for their roles in the violations.

On November 6, 2012, the Missouri Attorney General's Office and the department officially closed the case file for all actions associated with clean scanning violations that occurred at Clark's Tire and Auto, LLC—which includes the November 2011

\$350,000 default judgment against Ms. Susan Clark along with the settlement and default judgments listed above.

In addition to civil and criminal enforcement, the department has begun to regularly issue letters of warning to stations and inspector/mechanics found to be in violation during overt and covert audits. These warning letters are issued in accordance with the GVIP penalty matrix for minor, first offenses. There were 19 letters of warning issued in 2012.

(8) The total number of covert vehicles available for undercover audits over the year; and

There were 6 department owned vehicles and 5 MSHP vehicles used to perform covert audits during this reporting period.

(9) The number of covert auditors available for undercover audits.

During this reporting period, the department had 6 staff members available for covert audits. The MSHP had 11 staff available to perform covert audits.

(c) *Quality control report.* The program shall submit to EPA by July of each year a report providing basic statistics on the quality control program for January through December of the previous year, including:

(1) The number of emissions testing sites and lanes in use in the program;

In 2012, there were 880 GVIP licensed stations and 909 lanes in operation (as noted above, this excludes STI, department, and MSHP stations and lanes).

(2) The number of equipment audits by station and lane;

All overt audits conducted by the department and MSHP are also equipment audits. The department conducted 1,679 audits and the MSHP conducted 4,707 audits.

In addition, department auditors routinely audit software. They assist in development of acceptance test procedures and also participate in acceptance testing on all software versions released during the calendar year. They provide approval or request additional modifications as appropriate.

(3) The number and percentage of stations that have failed equipment audits; and

154 stations failed inspections for equipment violations. This equates to approximately 17.5% of stations.

(4) Number and percentage of stations and lanes shut down as a result of equipment audits.

154 stations were locked down until the equipment was fixed as a result of equipment audits.

(d) Enforcement report.

- (1) All varieties of enforcement programs shall, at a minimum, submit to EPA by July of each year a report providing basic statistics on the enforcement program for January through December of the previous year, including:**

- (i) An estimate of the number of vehicles subject to the inspection program, including the results of an analysis of the registration data base;**

According to the Missouri Department of Revenue's (DOR) vehicle registration database, 1,286,588 vehicles were subject to the Gateway Vehicle Inspection Program in 2012.

- (ii) The percentage of motorist compliance based upon a comparison of the number of valid final tests with the number of subject vehicles;**

For the reporting year, GVIP inspection stations performed 719,083 initial emission tests. These tests include vehicle transfers (used vehicles sold and required to be reinspected) and some federal, state and local government fleet vehicles that are not on the registration database (fewer than 3,000).

Assuming that roughly half of the 1,286,588 vehicles should be emission inspected during each year of the GVIP, then 643,294 vehicles should have received an emission test. However, a more accurate measure of compliance may be found in Attachment 8 (2vi-Vehicles with No Known Final Outcome) which indicates that out of 24,160 emissions failures 4656 vehicles never passed an emission inspection. This indicates a non-compliance rate of 19% and in turn a compliance rate of 81%.

- (iii) The total number of compliance documents issued to inspection stations;**

All compliance documents are stored on the Missouri Decentralized Analyzer System (MDAS) unit in the inspection lane. Because of this feature, they are printed on an as required basis so the number issued would correlate directly to the number of inspections performed or passed as appropriate.

- (iv) The number of missing compliance documents;**

As noted above, a complete set of compliance documents are stored on the MDAS unit in each lane and are available to be printed on an as needed basis.

- (v) The number of time extensions and other exemptions granted to motorists; and**

Cost-based emissions waivers are available if a motorist has spent more than \$450 on emissions-related repairs and labor if a Missouri Recognized Repair Technician performs the repairs. If the vehicle owner performs the repairs, the owner must spend at least \$400 in qualified emissions-control parts, as determined by the EPA, toward the waiver amount. If vehicle owners are financially dependent solely on state and federal disability, benefits or other

public assistance programs and anticipate failing the emissions test, they may receive a waiver if they spend at least \$200 on emissions-related repairs and labor. The department granted 537 cost based waivers in 2012.

Out-of-area waivers are also available. If a vehicle is registered in the St. Louis ozone nonattainment area, but operating outside of that area for the following 24 consecutive months, owners may apply to the department for an out-of-area waiver. Examples include vehicles used by family members away at college or on farm property outside of the St. Louis area. Out of Area Waivers, valid for the period of registration, are given to motorists of such vehicles. The department granted 218 Out-of-area waivers in 2012.

Reciprocity waivers are also available. If a vehicle is in a state other than Missouri and that state conducts pass/fail OBD testing, the motorist may choose to have the vehicle emissions inspected in that state and submit a reciprocity waiver application to the department. The department also uses these as “Technical Waivers.” The department granted 16 Reciprocity waivers in 2012.

Mileage-Based Exemptions are also available. There are 3 categories of motor vehicles eligible for mileage-based exemptions:

- 1) New motor vehicles, of model years of the current calendar year and within two (2) years of the current calendar year that have an odometer reading of fewer than 6,000 miles at the time of original sale by a motor vehicle manufacturer or licensed motor vehicle dealer to the first user;
- 2) New motor vehicles that have not been previously titled and registered, for the 4-year period following their model year of manufacture, that have an odometer reading of fewer than 40,000 miles showing at the first required biennial safety inspection; and
- 3) Motor vehicles that are driven fewer than 12,000 miles between biennial safety inspections.

The department granted 1,677 mileage-based exemptions in 2012.

(vi) The number of compliance surveys conducted, number of vehicles surveyed in each, and the compliance rates found.

No parking lot surveys or other compliance checks were conducted during the reporting period.

However, the department documented the presence of 3 vehicles operating in the 4 county non-attainment area surrounding and including St. Louis city in violation of their Out-of-area waiver. These cases have all been resolved. After notification of the violations, two of the vehicles were documented to have current passing emissions tests while the owner of the third vehicle reiterated their certification of the vehicle being operated exclusively outside of the non-attainment area for the remainder of the Out-of-area waiver period.

All owners received letters of warning with notification of potential future enforcement for future violations.

(2) Registration denial based enforcement programs shall provide the following additional information:

- (i) A report of the program's efforts and actions to prevent motorists from falsely registering vehicles out of the program area or falsely changing fuel type or weight class on the vehicle registration, and the results of special studies to investigate the frequency of such activity; and**
Real Time Inspection Data/Paperless Inspection Verification

Each lane is connected to the VID using a dedicated Internet connection at the inspection station. At the completion of each vehicle inspection, the lane software automatically uploads the inspection data to the VID, where it then becomes immediately available to the DOR contract license offices and online registration system for inspection verification. As a result of this real time paperless inspection verification system, GVIP has simplified registration verification and increased registration integrity for St. Louis area DOR contract license offices. Contract license offices now have the ability to quickly identify fraudulent vehicle inspection reports (VIRs) that motorists attempt to use to bypass the vehicle inspection requirements. Contract license offices now contact the department as soon as such attempts have been prevented so that the department and MSHP can initiate immediate investigation of the source of these fraudulent VIRs.

In addition to the ability to use real time inspection data and paperless verification, the GVIP program utilizes the Sierra Look-Up Table data and POLK VIN Decode data to define the vehicle for the Inspector/Mechanic, including the GVWR and fuel type. The DOR also has a data sheet with information regarding manufacturer types and weight classifications based on VIN.

- (ii) The number of registration file audits, number of registrations reviewed, and compliance rates found in such audits.**

In late 2011, the department began receiving nightly updates of registration data from DOR. The department developed a report to compare the registration data with the GVIP database to ensure all applicable vehicles registered in the area received either a passing emissions test or a waiver. The department began regularly running this comparison in 2012. In addition, in July 2012, DOR audited all 27 license offices located in the emissions inspection area. The audit consisted of reviewing motor vehicle registration transactions processed by these offices during 2011 where the DOR's Title and Registration Intranet Processing System (TRIPS) indicated an emissions inspection or waiver was verified and comparing this information to the data in the GVIP file to note any discrepancies. This review also identified the clerks who failed to access the GVIP file to verify all paper emissions

inspections or waivers submitted. These clerks either witnessed a fraudulent or failed emissions inspection or no inspection at all.

- Offices that had a non-compliance rate of **2% or more** were notified by e-mail of their overall percentage of non-compliance, and specific details for each clerk. DOR requested these offices submit a detailed plan regarding how they will ensure that their staff complies with emissions inspection procedure requirements in the future. DOR also warned the offices that further non-compliance could result in a breach of their contracts. Offices indicated they would ensure staff complied with this directive and periodically check for compliance.
- Offices that had a non-compliance rate of **less than 2%** were notified by e-mail of their overall percentage of non-compliance and were also provided specific details by clerk. DOR requested that these offices remind their staff of the requirement to verify each emissions inspection in GVIP regardless of any paper inspection that may be submitted.

DOR has issued numerous communications to all license offices regarding the importance of accessing GVIP information even when a paper emissions inspection is presented and also provided sample screens and instructions for how to read them.

DOR plans to take the following action to ensure offices continue to adhere to the emissions inspection requirements:

- Audit CY 2012 and FY 2013 transactions subject to an emissions inspection for all offices;
- Compare the results of FY 2013 to CY 2011 for the 27 offices previously notified to report any increase or decrease in percentage of GVIP compliance; and
- Complete a quarterly GVIP compare going forward.

(3) Computer-matching based enforcement programs shall provide the following additional information:

The Gateway Vehicle Inspection Program is primarily enforced with a registration denial based program rather than a computer-matching system. However, we do have the ability to implement some computer-matching based measures as well. As noted in Section (b)(2)(iii), the department does conduct data investigation using various reporting tools, for example, reports which show VIN mismatches, OBD “fingerprint” mismatches, vehicles with multiple ‘readiness monitor fails’ and ‘Repair Verification’ action regarding problem waivers.

- (i) **The number and percentage of subject vehicles that were tested by the initial deadline, and by other milestones in the cycle;**

Registrations Subject to an Emissions Inspection in CY 2011 per DOR	Non-compliant Registrations	% Non-compliant
458,156	7,607	1.66%

The department will report on CY2012 data as soon as it is received from DOR.

- (ii) **A report on the program's efforts to detect and enforce against motorists falsely changing vehicle classifications to circumvent program requirements, and the frequency of this type of activity; and**

The system utilizes the Sierra Look-Up Table and Data One to decode the VIN and define the vehicle. Changes to GVWR or fuel type require station management approval.

In addition, department and MSHP staff are able to compare vehicle information entered in the VIR to the Inspector/Mechanic's photographs of the vehicle's VIN, rear license plate and odometer attached to the electronic VIR. As noted above, the department and MSHP also frequently conduct data investigation using various reports including those, which show VIN mismatches and OBD "fingerprint" mismatches to identify and address attempts to circumvent program requirements.

- (iii) **The number of enforcement system audits, and the error rate found during those audits.**

As stated above in (2)(ii), the department received DOR registration data in late 2011 and began these types of audits using the comparison report in 2012. The department ran the report 40 times in calendar year 2012. While some errors were noted during the department's review, after discussions with DOR, it was determined DOR's compliance and enforcement follow up would more quickly and accurately address the issues noted. Therefore, as noted in (3)(i), the error rate (% non-compliant) found during DOR's review of the data was 1.66%. As noted in (3)(ii), DOR has completed compliance and enforcement follow up with the fee offices and the individual clerks to address this issue and has a plan of action to ensure future compliance with the GVIP requirements.

- (4) **Sticker-based enforcement systems shall provide the following additional information:**

The Gateway Vehicle Inspection Program is not enforced with a sticker-based system. Although a windshield sticker is issued to any vehicle that passes an emissions test or receives a waiver, the stickers are not currently used as an enforcement tool.

- (i) A report on the program's efforts to prevent, detect, and enforce against sticker theft and counterfeiting, and the frequency of this type of activity;
- (ii) A report on the program's efforts to detect and enforce against motorists falsely changing vehicle classifications to circumvent program requirements, and the frequency of this type of activity; and
- (iii) The number of parking lot sticker audits conducted, the number of vehicles surveyed in each, and the noncompliance rate found during those audits.

(e) *Additional reporting requirements.* In addition to the annual reports in paragraphs (a) through (d) of this section, programs shall submit to EPA by July of every other year, biennial reports addressing: N/A for this reporting period.

- (1) Any changes made in program design, funding, personnel levels, procedures, regulations, and legal authority, with detailed discussion and evaluation of the impact on the program of all such changes; and
- (2) Any weaknesses or problems identified in the program within the two-year reporting period, what steps have already been taken to correct those problems, the results of those steps, and any future efforts planned.

(f) *SIP requirements.* The SIP shall describe the types of data to be collected.